

September 3, 2003

Dawn Gallagher, Commissioner  
Department of Environmental Protection  
17 State House Station  
Augusta, ME 04333-0017

Dear Commissioner Gallagher:

Please accept this letter as an initial step in developing cost estimates for either degrading or failing to improve water quality in the Androscoggin. As I said at the stakeholders' meeting last week, I have contacted several natural resource economists to provide me with advice. Although they have been helpful, I think that it would also be helpful for DEP to contact them directly and ask them to assist the State of Maine in this endeavor. I have attached contact information Lynne Lewis, David Vail, and Kevin Boyle at the end of this letter.

DEP helped to conduct the study<sup>1</sup> that I referred to at the stakeholders' meeting last week, and Roy Bouchard is listed as an author. This study made very strong conclusions about the impacts of declining water quality on property values and tax revenues. For example:

"Individual models were fit for 22 lakes in 4 regional groups which allow calculation of the component of property price which is affected by water clarity. For example, properties on China Lake sold for an average of \$107,070, of which 15 % (\$15,996) was dependent on water quality. One can compute the increase or loss in value if water clarity changes. If the condition of China Lake continued to decline, an additional loss of more than \$16 million dollars could occur. Current losses are probably several times that amount. These results show that these effects are very large and that they are greater for degrading water quality than for improving. Of 451 Maine lakes for which we have substantial water quality data, 191 are below regional expectations for lakes in undisturbed watersheds. The estimated property value loss for these 191 lakes is about \$256-512 million. It is clear from these estimates that the economic losses due to declines in lake water quality that have already occurred are real and very large.

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<sup>1</sup> *Water Quality Affects Property Prices: A Case Study of Selected Maine Lakes*. Holly Michael, Kevin Boyle, and Roy Bouchard. Maine Agricultural and Forest Experiment Station Misc. Report 398, Feb 1996, Univ. of Maine

The future property tax implications of these losses can be substantial. More than 60% of all municipal revenues in Maine come from property taxes which are directly related to property values. For example, the Town of Belgrade has a total tax valuation of almost \$211 million, of which 60% is lakefront property. If the average water clarity in the local lakes were to decline one meter, the town stands to lose almost \$10.5 million (5%) in total property value that should eventually be reflected in tax rates. Belgrade would have to raise its tax rate and the actual taxes paid by non-shoreline owners would rise by over 5%, while those paid by shoreline owners would decrease as they lost property investment value. The degree to which tax burdens would be shifted among regional towns is difficult to estimate and depends in part on which lakes experience significant water quality declines. No matter what the distribution of this loss would be, the real losers are the taxpayers and landowners whose investments have been eroded.

It is clear from our studies that the economic losses due to declines in lake water quality which have already occurred are real and very large.”<sup>2</sup>

It will take more information to figure out precisely how this study of water clarity in lakes can be applied to the Gulf Island Pond/Androscoggin River setting, but it is cause for concern given the size of the investments in riverfront in some Androscoggin cities. For example, the new Hilton hotel in Auburn was a \$10 million dollar investment. There are also plans to build 5-7000 sq. feet of convention space in the Bates Mill complex in Lewiston, at an estimated cost of \$40-60 million dollars and a performance arts complex in Auburn at \$10-20 million<sup>3</sup>. If the value of these sorts of investments were to decline by 5-15%, which is the range cited above for China and Belgrade due to increased algae blooms, this could cause as much as a \$13.5 million dollar loss in value in these investments in the Lewiston/Auburn area.

Obviously, this does not account for the total value of riverfront property in Lewiston/Auburn or along the rest of the river in the area of Gulf Island Pond. Other towns have invested significantly in their waterfronts, such as Mexico, where a \$7 million dollar downtown revitalization plan was recently completed and \$2.2 million second phase is just beginning<sup>4</sup>. Many individuals also own properties along the river and the impoundment. Also, the study that DEP helped develop on lakes was based on water clarity. This may (or may not) be less of an issue in the Androscoggin River, but other factors, such as odor, that would increase with increased mill discharges of BOD and TSS, would be a much more significant factor. What should be clear from this example is that increased mill discharges and the declining water quality in the Androscoggin that could result could contribute substantially to economic losses in the region.

Again, please accept this letter as a first step in generating information on the costs of degrading or not continuing to improve water quality in the Androscoggin. I will continue to research this issue, and I strongly encourage DEP to discuss this issue both

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<sup>2</sup> DEP website: <http://www.maine.gov/dep/blwq/doclake/research.htm>

<sup>3</sup> Rebecca Zicarelli. 2003. River on the Rise. In: Mainebiz

<sup>4</sup> Ibid.

with its own staff who have experience in dealing with it (e.g., Roy Bouchard) and with the economists whose contact information is below.

Please feel free to contact me with questions.

Sincerely,

Nick Bennett  
Staff Scientist

Contact information for three natural resource economists in Maine

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